

Appl. No. : **Unknown**
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AMENDMENTS TO THE CLAIMS

Please cancel Claims 10-13, 17-20 and 29-32, without prejudice.

Please amend Claims 5-9, 14, 21-23, 25, 27 and 28 as follows.

1. (Original) A liquid injector for injecting at least one liquid into a patient, comprising:
 - at least one injection performing means for performing injection of the liquid;
 - screen displaying means for displaying a condition screen with its vertical axis representing an injection rate of the liquid and its horizontal axis representing an injection time period of the liquid;
 - condition entering means for accepting an input action of at least one injection condition including an injection rate of the liquid relative to the injection time period;
 - condition storing means for storing the entered injection condition;
 - image producing means for producing a condition image having a horizontal width corresponding to the injection time period and including at least the injection rate as text data for each of the injection conditions;
 - image displaying means for displaying the at least one produced condition image in the condition screen at a vertical position in association with the injection rate and a horizontal position in association with the injection time period;
 - state detecting means for measuring at least the elapsed time from the start of the injection of the liquid; and
 - injection control means for controlling the operation of the injection performing means in real time in accordance with the measured elapsed time and the stored injection condition.
2. (Original) A liquid injector according to claim 1, further comprising quantity calculating means for calculating an injection quantity of the liquid for each of the injection conditions,
 - wherein the image producing means produces the condition image also including the injection quantity as text data.
3. (Original) A liquid injector for injecting at least one liquid into a patient, comprising:
 - at least one injection performing means for performing injection of the liquid;

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screen displaying means for displaying a condition screen with its vertical axis representing an injection rate of the liquid and its horizontal axis representing an injection quantity period of the liquid;

condition entering means for accepting an input action of at least one injection condition including an injection time period of the liquid relative to the injection quantity;

condition storing means for storing the entered injection condition;

image producing means for producing a condition image having a horizontal width corresponding to the injection quantity and including at least the injection rate as text data for each of the injection conditions;

image displaying means for displaying the at least one produced condition image in the condition screen at a vertical position in association with the injection rate and a horizontal position in association with the injection quantity;

state detecting means for detecting at least the injection quantity from the start of the injection of the liquid; and

injection control means for controlling the operation of the injection performing means in real time in accordance with the detected injection quantity and the stored injection condition.

4. (Original) A liquid injector according to claim 3, further comprising time period calculating means for calculating an injection time period of the liquid for each of the injection conditions,

wherein the image producing means produces the condition image also including the injection time period as text data.

5. (Currently amended) A liquid injector according to any one of claims 1 to 4, wherein the condition entering means accepts an input action of a plurality of the injection conditions for the one injection performing means,

the condition storing means stores a plurality of the injection conditions,

the image displaying means displays the plurality of the produced condition images sequentially arranged horizontally in the condition screen, and

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the injection control means sequentially controls the operation of the one injection performing means in accordance with the plurality of the injection conditions.

6. (Currently amended) A liquid injector according to ~~any one of~~ claims 1 to 5, comprising a plurality of the injection performing means,

wherein the condition entering means accepts an input action of at least one of the injection conditions for each of a plurality of the liquids,

the condition storing means stores a plurality of the injection conditions, and

the injection control means sequentially controls the operation of the plurality of the injection performing means in accordance with the plurality of the injection conditions.

7. (Currently amended) A liquid injector according to ~~any one of~~ claims 1 to 6, comprising a plurality of the injection performing means,

wherein the image producing means produces the condition image in a difference color for each of the liquids, and

the image displaying means displays the produced condition image for each of the liquids in a different color in the condition screen.

8. (Currently amended) A liquid injector according to ~~any one of~~ claims 1 to 7, wherein the condition entering means accepts an input action to move the condition image displayed by the image displaying means upward and/or downward and to move both of lateral ends of the condition image leftward and/or rightward.

9. (Currently amended) A liquid injector according to ~~any one of~~ claims 1 to 8, further comprising:

rate storing means for storing an upper limit rate of the liquid injection in advance; and

an alarm outputting means for outputting an alarm when the injection rate of the stored injection condition exceeds the upper limit rate.

10-13. (Cancelled)

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14. (Currently amended) A liquid injector according to ~~any one of~~ claims 1 to ~~13~~, further comprising review entering means for accepting an input action of a review instruction, wherein the image displaying means enlarges the text data of the condition image when the review instruction is entered.

15. (Original) A liquid injector according to claim 14, wherein the image producing means produces the text data of the condition image as a combination of a numerical value and its unit, and

the image displaying means enlarges only the text data of the numerical value when the review instruction is entered.

16. (Original) A liquid injector according to claim 15, wherein the image displaying means displays the text data of the unit outside the condition image when the review instruction is entered.

17-20. (Cancelled)

21. (Currently amended) A liquid injector according to ~~any one of~~ claims 1 to ~~20~~, wherein the condition storing means stores at least one of the injection condition of previous injection and the injection condition as a default,

the image producing means produces the condition image from the injection condition stored before new entry of the injection condition, and

the condition entering means accepts edit operation of the injection condition displayed on the condition screen as an input action of the new injection condition.

22. (Currently amended) A liquid injector according to ~~any one of~~ claims 1 to ~~21~~, further comprising image storing means for storing schematic images of a plurality of body sections of a human body and schematic images of a number of regions to be imaged in relation to each other, section displaying means for displaying the schematic images of the plurality of body sections in the shape of a human body, section entering means for accepting an input action to select one of

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the plurality of displayed body sections, region displaying means for displaying a schematic image of at least one of the regions to be imaged in association with the selected body section, and section entering means for accepting an input action to select the displayed region to be imaged,

wherein the injection performing means injects at least a contrast media as the liquid to the patient whose fluoroscopic image is to be imaged by an imaging diagnostic apparatus,

the condition entering means accepts an input action of the injection condition for each of the number of regions to be imaged of a human body,

the condition storing means stores the injection condition for each of the regions to be imaged, and

the injection control means controls the operation of the injection performing means in accordance with the injection condition of the selected region to be imaged.

23. (Currently amended) A liquid injector according to any one of claims 1 to ~~21~~, further comprising image storing means for storing schematic images of a plurality of body sections of a human body and schematic images of a number of regions to be imaged in relation to each other, section displaying means for displaying the schematic images of the plurality of body sections in the shape of a human body, section entering means for accepting an input action to select one of the plurality of displayed body sections, region displaying means for displaying a schematic image of at least one of the regions to be imaged in association with the selected body section, section entering means for accepting an input action to select the displayed region to be imaged, and condition correcting means for correcting the data of the injection condition in accordance with the selected region to be imaged,

wherein the injection performing means injects at least a contrast media as the liquid to the patient whose fluoroscopic image is to be imaged by an imaging diagnostic apparatus, and

the injection control means controls the operation of the injection performing means in accordance with the corrected injection condition.

24. (Original) A liquid injector according to claim 23, further comprising:

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coefficient storing means for storing a predetermined coefficient for each of the regions to be imaged of the patient; and

coefficient reading means for reading the data of the coefficient from the coefficient storing means based on the selected region to be imaged,

wherein the condition correcting means increases and/or reduces at least one of the injection rate, the injection time period, and the injection quantity in accordance with the read coefficient.

25. (Currently amended) A liquid injector according to ~~any one of~~ claims 1 to 24, further comprising:

body entering means for accepting data of details of the body of the patient; and

condition correcting means for correcting the data of the injection condition in accordance with the entered data of the details of the body.

26. (Original) A liquid injector according to claim 25, wherein the body entering means accepts the data of the weight of the patient as the details of the body, and

the condition correcting means increases and/or reduces at least one of the injection rate, the injection time period, and the injection quantity in accordance with the entered weight.

27. (Currently amended) A liquid injector according to ~~any one of~~ claims 1 to 26, wherein the injection performing means injects at least a contrast media as the liquid to the patient whose fluoroscopic image is to be imaged by an imaging diagnostic apparatus,

a plurality of the contrast media with different effective components are used,

further comprising type entering means for accepting data of a type of the contrast media; and

condition correcting means for correcting the data of the injection condition in accordance with the entered data of the type of the contrast media.

28. (Original) A liquid injector according to claim 27, wherein a plurality of the contrast media containing effective components at different concentrations are used,

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further comprising concentration storing means for storing the concentration for each type of the contrast media and concentration reading means for reading the data of the concentration from the concentration storing means based on the entered data of the type of the contrast media,

wherein the condition correcting means increases and/or reduces at least one of the injection rate, the injection time period, and the injection quantity in accordance with the read data of the concentration.

29-32. (Cancelled)